

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows:

1. (currently amended) An air intake control device for a diesel engine comprising:

a throttle valve installed in an air intake passage of the engine, wherein the throttle valve is rotatable over a throttle valve rotatable range between a throttle valve-fully open position which defines a maximum intake air volume and an endpoint position;

a motor for controlling the throttle valve to control intake air in response to signals from a control unit;

~~a bypass for supplying air downstream from the throttle valve by bypassing the throttle valve when the throttle valve is in a mechanically fully closed position; and~~

a return spring for exerting a spring force on the throttle valve toward a ~~position defining a maximum intake air volume,~~ the throttle valve-fully open position; and

~~wherein a throttle valve position defining a minimum intake air volume under control for air intake is formed at a position slightly more open than the mechanically fully closed position of the throttle valve~~

a bypass for supplying air downstream from the throttle valve by bypassing the throttle valve when the throttle valve is in said endpoint position,

wherein the bypass is arranged so as to define a throttle valve-minimum intake air volume position between said throttle valve-fully open position and

said endpoint position at which an opening area is smaller than an opening area at said endpoint position, said opening area at the endpoint position including an opening area of said bypass at the endpoint position.

2. (currently amended) An air intake control device for a diesel engine comprising:

a throttle valve for controlling an opening area of an air intake passage, wherein the throttle valve is rotatable over a throttle valve rotatable range between a throttle valve-fully open position which defines a maximum intake air volume and an endpoint position;

a motor for controlling the throttle valve to control intake air in response to signals from a control unit; and

a return spring for exerting a spring force on the throttle valve toward a ~~position defining a maximum intake air volume,~~ the throttle valve-fully open position; and

~~wherein a throttle valve position defining a minimum intake air volume under control for air intake is formed at a position slightly more open than a mechanically fully closed position of the throttle valve, and~~

~~a groove for increasing an air passage area is formed upstream from the throttle valve position defining the minimum intake air volume on an interior wall of the air intake passage, so that the throttle valve enters into the groove area at the mechanically fully closed position~~

a groove formed so as to straddle said endpoint on an interior wall of the

air intake passage, thereby forming a path communicating between the upper reaches and the lower reaches of the intake passage when the throttle valve is in said endpoint position;

wherein the groove is arranged so as to define a throttle valve-minimum intake air volume position between said throttle valve-fully open position and said endpoint position at which an opening area is smaller than an opening area at said endpoint position, said opening area at the endpoint position including an opening area of said groove at the endpoint position.

3. (currently amended) The air intake control device for an internal combustion engine according to Claim 2, wherein the groove is formed in the air intake passage so as to increase the volume of air passing through the air intake passage ~~when the throttle valve has closed beyond a predetermined angle~~ as the throttle valve rotates toward said endpoint from said minimum intake air volume position.

4. (currently amended) The air intake control device for an internal combustion engine according to Claim 2 [3], wherein the groove is formed in the air intake passage so as to maintain a constant volume of air passing through the air intake passage ~~when the throttle valve has closed beyond a predetermined angle~~ as the throttle valve rotates toward said endpoint from said minimum intake air volume position.

5. (currently amended) The air intake control device for an internal combustion engine according to Claim 2, wherein a part of the air intake passage is formed in a spherical form approximate to a the rotary locus of an edge of the throttle valve.

6. (currently amended) The air intake control device for an internal combustion engine according to Claim 3, wherein a part of the air intake passage is formed in a spherical form approximate to a the rotary locus of an edge of the throttle valve.

7. (currently amended) The air intake control device for an internal combustion engine according to Claim 4, wherein a part of the air intake passage is formed in a spherical form approximate a the the rotary locus of an edge of the throttle valve.

8-10. (canceled)

11. (currently amended) A motor-driven throttle device for a diesel engine, wherein a throttle valve is installed in an air intake passage so as to be rotatable in both a clockwise direction and a counterclockwise direction across a position defining a minimum intake air volume; and

a position defining a maximum intake air volume is set at one endpoint of the clockwise and counterclockwise throttle valve rotation range, ~~and a position~~

~~defining an intermediate intake air volume is set at an opposing endpoint of the range and a position defining an air intake air volume greater than an air intake air volume at the minimum intake air volume position is set at the opposing endpoint of the throttle valve rotation range.~~

12-14. (canceled)

15. (currently amended) The air intake control device for a diesel engine according to claim 1, wherein ~~a groove to be the bypass is formed as a groove along a circumference of the throttle valve on an~~ inner surface of the throttle body forming the air intake passage.

16. (currently amended) The air intake control device for a diesel engine according to claim 2, wherein the groove is formed along ~~a circumference of the throttle valve on an~~ inner surface of a throttle body forming the air intake passage.

17. (currently amended) The motor-driven throttle device for a diesel engine according to claim 11, further comprising a the groove which forms a path communicating between the upper reaches and the lower reaches of the intake passage at said opposing endpoint of the throttle valve rotation range, wherein said groove is formed along a circumference of the throttle valve on an inner surface of a throttle body forming the air intake passage.

18. (currently amended) The air intake control device for a diesel engine according to claim 1, comprising a motor housing for the motor, which is integrated with a throttle body forming the intake passage,

wherein a motor housing-inner surface part adjacent to the intake passage is flat, and

an intake passage-inner surface part opposite to the flat inner surface of the motor housing is provided with a groove ~~to be~~ by which forms the bypass.

19. (previously presented) The air intake control device for a diesel engine according to claim 2, comprising a motor housing for the motor, which is integrated with a throttle body forming the intake passage,

wherein a motor housing-inner surface part adjacent to the intake passage is flat, and

an intake passage-inner surface part opposite to the flat inner surface of the motor housing is provided with the groove.

20. (currently amended) The motor-driven throttle device for a diesel engine according to claim 11, comprising a motor housing for the motor, which is integrated with a throttle body forming the intake passage,

wherein a motor housing-inner surface part adjacent to the intake passage is flat, and

an intake passage-inner surface part opposite to the flat inner surface of the motor housing is provided with ~~the~~ a groove which forms a path communicating the upper reaches and the lower reaches of the intake passage at said opposing endpoint of the throttle valve rotation range.